Supplemental Instruction Handouts

Business Math

Chapter 8

Compound Interest:

Future Value and Present Value

1. What amount invested today will be worth $10,500 in 15 months if interest is 5.6% compounded monthly?

2. What will $5,000 grow to if it is invested at an interest rate of 10.5% compounded annually for 15 years?

3. Glen has two debts that need to be paid. The first debt of $500 was supposed to be paid six months ago. The second debt of $1,200 is to be paid 18 months from today. How much would Glen have to pay to settle both debts three months from today if interest is 8.2% compounded quarterly?

4. Sam has just received a loan of $2,000. The loan is to be repaid in two years with an interest rate of 9.3% compounded semi – annually. How much interest must Sam pay on the loan?

5. A five year $9,500 non – interest bearing promissory note was discounted 33 months after issue at 11.5% compounded monthly. What were the proceeds from the sale of the note?

6. A 7 year, $4,800, 6.9% compounded quarterly interest bearing promissory note is sold 3 years before its maturity date. What proceeds did the seller receive if the interest rate was 10.2% compounded annually?

7. A $25,000 strip bond has 10 years remaining until maturity. What is its' price in the market if the rate of return on these types of bonds is 6.1% compounded semi – annually? At this market rate of return, what will be the increase in the value of the strip bond during the fifth year of ownership?

8. You are going to invest $25,000 in a four – year regular – interest GIC earning 3.82% payable quarterly. What is each quarterly interest payment?
9. You have invested $50,000 in a five-year compound interest GIC earning interest rates of 3%, 3.25%, 3.75%, 4.5% and 5.5% in successive years. What amount will the investor receive at maturity? Calculate the amount of interest earned in the third year.

10. Kevin has two outstanding debts. The first, for $850, is due today and the second is $350 due in two years. If Kevin agrees to make two payments with the first unknown payment made in 6 months and the second payment of $500 made in 15 months, how much would the first payment be if interest is 8.7% compounded monthly?